



12-10-01

1645

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent
260/095RECEIVED
DEC 12 2001
TECH CENTER 1600/2900

In re Application of:

Norbert Windhab, et al.

Serial No.: 09/783,763

Filed: February 14, 2001

For: METHODS, PROCEDURE, AND
FORMATS FOR USING
MICROELECTRONIC ARRAY DEVICES
TO PERFORM MULTIPLEX
IMMUNOASSAY ANALYSES

Group Art Unit: 1645

Examiner: Not Assigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR §§ 1.97 and 1.98, the items identified in this Information Disclosure Statement ("IDS") are brought to the attention of the Office. The items are listed on the attached form PTO-1449. Copies not provided herein have either been previously provided by Applicant or cited by the Examiner in the related parent application, U.S. Serial No. 09/374,338, filed on August 13, 1999.

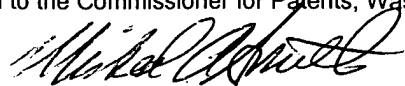
The items identified in this IDS may or may not be "material" pursuant to 37 CFR § 1.56. The submission thereof by Applicant is not to be construed as an admission that any such patent, publication or other information referred to therein is material or considered to be material (37 CFR § 1.97(h)), or even qualifies as "prior art" under 35 USC § 102 with respect to this invention unless specifically designated by Applicant as such.

This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b), that is (1) within three months of the filing date of the application, which is not a continued prosecution application filed under § 1.53(d); or (2) within three months of entry of the national stage as set forth

OC-95881.1

CERTIFICATE OF MAILING
(37 C.F.R. §1.10)

I hereby certify that I have a reasonable basis to expect that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as 'Express Mail Post Office To Addressee' in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231.

Express Mail Label No. EL622500821US
Date of Deposit: November 2, 2001
Micheal A. Smith



Patent
260/095

in 37 CFR § 1.491; or (3) before the mailing of a first Office action on the merits; or (4) before the mailing of a first Office action after filing a request for continued examination under § 1.114. Thus, no fee is required. However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and charge the fee due under 37 CFR § 1.17(p) to the deposit account referenced below.

The Commissioner is authorized to charge any fees required by the filing of these papers, and to credit any overpayment to Lyon & Lyon's Deposit Account No. **12-2475**.

Respectfully submitted,

LYON & LYON LLP

Dated: November 2, 2001

By: 

Patrick S. Eagleman
Reg. No. 44,665



22249

LYON & LYON LLP
633 W. Fifth Street, Suite 4700
Los Angeles, CA 90071

LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT

APPLICANT:

Norbert WINDHAB, et al.

FILING DATE:

February 14, 2001

GROUP:

1645

(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

EXAM INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	4,563,419	01/07/1986	Ranki	435	6	12/29/1983
	AB	4,751,177	06/14/1988	Stabinsky	435	6	06/13/1985
	AC	4,787,963	11/29/1988	MacConnell	204	450	05/04/1987
	AD	5,143,854	09/01/1992	Pirrung et al.	436	518	03/07/1990
	AE	5,202,231	04/13/1993	Drmanac et al.	435	6	06/18/1991
	AF	5,219,726	06/15/1993	Evans	435	6	06/02/1989
	AG	5,605,662	02/25/1997	Heller et al.	422	68.1	11/01/1993
	AH	5,632,957	05/27/1997	Heller et al.	422	68.1	09/09/1994
	AI	5,653,939	08/05/1997	Hollis et al.	422	50	08/07/1995
	AJ	5,695,940	12/09/1997	Drmanac et al.	435	6	06/05/1995
	AK	5,744,305	04/28/1998	Fodor et al.	435	6	06/06/1995
	AL	5,763,175	06/09/1998	Brenner	435	6	11/17/1995
	AM	5,849,486	12/15/1998	Heller et al.	435	6	09/27/1995
	AN	6,017,696	01/25/2000	Heller	435	6	07/07/1994
	AO	6,051,380	04/18/2000	Sosnowski et al.	435	6	12/05/1997

FOREIGN PATENT DOCUMENTS

EXAM INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
	AP	2156074	10/02/1985	United Kingdom				
	AQ	86/03782	07/03/1986	WIPO				
	AR	86/07387	12/18/1986	WIPO				
	AS	570/87	04/01/1987	Yugoslavia				
	AT	88/10400	05/03/1988	United Kingdom				
	AU	0 305 145 A2	03/01/1989	Europe				
	AV	89/10977	11/16/1989	WIPO				

Examiner: Not Yet Assigned

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

FOREIGN PATENT DOCUMENTS

INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
						YES	NO
BA	90/01564	02/22/1990	WIPO				
BB	0 360 940 A2	04/04/1990	Europe				
BC	Hei 3-151900	06/28/1991	Japan			X	
BD	93/13223	07/08/1993	WIPO				
BE	93/13225	07/08/1993	WIPO				
BF	93/25563	12/23/1993	WIPO				
BG	0 360 940 B1	01/31/1996	Europe				
BH	96/13522	05/09/1996	WIPO				
BI	97/32999	09/12/1997	WIPO				
BJ	97/43232	11/20/1997	WIPO				
BK	98/25943	06/18/1998	WIPO				
BL	98/51819	11/19/1998	WIPO				
BM	99/15509	04/01/1999	WIPO				
BN	99/15539	04/01/1999	WIPO				
BO	99/15540	04/01/1999	WIPO				
BP	99/15541	04/01/1999	WIPO				
BR	99/15542	04/01/1999	WIPO				
BS	99/15893	04/01/1999	WIPO				
BT	99/29711	06/17/1999	WIPO				
BU	99/42558	08/26/1999	WIPO				
BV	00/11011	03/02/2000	WIPO				
BW	00/39581	07/06/2000	WIPO				
BX	00/58516	10/05/2000	WIPO				
BY	00/60124	10/12/2000	WIPO				
BZ	01/07657 A1	02/01/2001	WIPO				

Examiner: Not Yet Assigned

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

**LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT**

NOV 02 2001

Use several sheets if necessary)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CA	Anderson and Young, "Quantitative Filter Hybridization," <u>Nucleic Acid Hybridization - A Practical Approach</u> , Eds. B.D. Hames and S.J. Higgins (Washington, D.C. :IRL Press 1985) pp 73-111
CB	Bains, "Setting a Sequence to Sequence a Sequence," <u>Bio/Technology</u> , 10:757-758 (1992)
CC	Barinaga, "Will 'DNA Chip' Speed Genome Initiative?", <u>Science</u> , 253:1489 (1991)
CD	Beattie et al., "Genosensor Technology," <u>The 1992 San Diego Conference: Genetic Recognition</u> , pp 1-5 (Nov, 1992)
CE	Beier, M. et al., "Chemical Etiology of Nucleic Acid Structure: Comparing Pentopyranosyl-(2'→4') Oligonucleotides with RNA", <u>Science</u> , Vol. 283, pp. 699-703, Jan. 29, 1999.
CF	Beltz et al., "Isolation of Multigene Families and Determination of Homologies by Filter Hybridization Methods," <u>Methods in Enzymology</u> , 100:266-285 (1983)
CG	Bolli, M. et al., "131. Pyranosyl-RNA: Further Observations on Replication", <u>Helv. Chim. Acta</u> , Vol. 80, pp. 1901-1951, 1997.
CH	Brady, A. et al., <u>J.Chem.Soc., Perkin Trans.</u> , 1, 1997, pp. 3237-3253
CI	Cheng J. et al., <u>Nature/Biotechnology</u> , 16, 6/98, pp 541-546
CJ	Chilkoti, A., et al., "Molecular Origins of the Slow Streptavidin - Biotin Dissociation Kinetics", <u>J. Am. Chem. Soc.</u> Vol. 117, pp. 10622-10628, 1995
CK	Chu, B.C.F. et al., "Ligation of oligonucleotides to nucleic acids or proteins via disulfide bonds", <u>Nucleic Acids Research</u> , Vol. 16, No. 9, pp. 3671-3691, 1988.
CL	Conner et al., "Detection of Sickle Cell ³ -Globin Allele by Hybridization With Synthetic Oligonucleotides," <u>Proc. Natl. Acad. Sci. USA</u> , 80:278-282 (1983)
CM	Drmanac et al., "DNA Sequence Determination by Hybridization: A Strategy for Efficient Large-Scale Sequencing," <u>Science</u> , 260: 1649-1652 (1993)
CN	Drmanac et al., "Sequencing of Megabase Plus DNA by Hybridization: Theory of the Method," <u>Genomics</u> , 4:114-128 (1989)
CO	Edman C.F. et al., <u>Nucleic Acids Research</u> , 25, 1997, 4907-4914
CP	Fodor et al., "Light-Directed, Spatially Addressable Parallel Chemical Synthesis," <u>Science</u> , 251:767-773 (1992)
CQ	Fodor et al., "Multiplexed Biochemical Assays With Biological Chips," <u>Nature</u> , 364:555-556 (1993)
CR	Fredericks P.M., et al., Materials Characterization Using FT-IR Spectra. Part 2: Mathematical & Statistical Considerations, <u>Applied Spectroscopy</u> , 39, 2, 1989, p. 311
CS	Ghadiri, M. R. et al., <u>Nature</u> , 366, 1993, pp 324-327
CT	Gilles, P.N. et al., "Single nucleotide polymorphic discrimination by an electronic dot blot assay on semiconductor microchips", <u>Nature Biotechnology</u> , Vol. 17, pp. 365-370, Apr. 17, 1999.
CU	Goodwin, J.T. et al., "Template-Directed Synthesis: Use of a Reversible Reaction", <u>J. Am. Chem. Soc.</u> , Vol. 114, pp. 9197-9198, 1992.
CV	Green, N. M., "Advances in Protein Chemistry", pp. 85-132, 1975.
CW	Gryaznov, S.M. et al., "Chemical Ligation of Oligonucleotides in the Presence and Absence of a Template", <u>J. Am. Chem. Soc.</u> , Vol. 115, pp. 3808-3809, 1993.
CX	Guo Z. et al., <u>Nucleic Acids Res</u> , vol. 22, no. 24, 1994, pp 5456-5465, Direct Fluorescence Analysis Of Genetic Polymorphism By Hybridization With Olognucleotide Arrays
CY	Hayakawa Y. et al, <u>J.Am.Chem.Soc.</u> 112, 1990, 1691

Examiner: Not Yet Assigned

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant

260/095

09/783,763

**LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT**

APPLICANT:

Norbert WINDHAB, et al.

FILING DATE:

February 14, 2001

GROUP:

1645

(Use several sheets if necessary)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

DA	Heller, M.J., IEEE Engineering In Medicine & Biology, March/April 1996, 100-104 An Active Microelectronics Device For Multiplex DNA Analysis
DB	Huc, I., Lehn, J.M., Proc.Nat.Acad.Sci.USA, 94, 1997, pp 2106-2110
DC	Kozal M.J. et al., Nature Medicine, vol. 2, no. 7, 1996, 753-759
DD	Lehn J.M., J.Chem.Soc. Chem. Commun., 49, 1990
DE	Liu, J. et al., "Template-directed photoligation of oligodeoxyribonucleotides via 4-thiothymidine", <i>Nucleic Acids Research</i> , Vol. 26, No. 13, pp. 3300-3304, 1998.
DF	Malinowski E.R. et al, Factor Analysis In Chemistry, John Wiley & Sons, New York, 1980
DG	Marshall, A. et al, Nature Biotechnology, vol. 16, 1998, pp 27-31
DH	Miculka, C. et al, European BioPharmaceutical Review, 6/98, pp 52-57
DI	Pitsch, S. et al., "122. Pyranosyl-RNA ('p-RNA'): Base-Pairing Selectivity and Potential to Replicate", <i>Helv. Chim. Acta</i> , Vol. 78, pp. 1621-1635, 1995.
DJ	Pitsch, S. et al., "147. Why Pentose- and Not Hexose-Nucleic Acids?" <i>Helv. Chim. Acta</i> , Vol. 76, pp. 2161-2183, 1993.
DK	Ramsay, G., Nature Biotechnology, vol. 16, 1998, pp 40-44
DL	Ranki et al., "Sandwich Hybridization as a Convenient Method for the Detection of Nucleic Acids in Crude Samples," <i>Gene</i> , 21:77-85 (1983)
DM	Schlönvogt, I. et al., "188. Pyranosyl-RNA ('p-RNA'): NMR and Molecular-Dynamics Study of the Duplex Formed by Self-pairing of Ribopyranosyl-(C-G-A-A-T-T-C-G)" <i>Helv. Chim. Acta</i> , Vol. 79, pp. 2316-2345, 1996.
DN	Shchepinov, M.S. et al., "Oligonucleotide dendrimers: synthesis and use as polylabelled DNA probes", <i>Nucleic Acids Research</i> , Vol. 25, No. 22, pp. 4447-4454, 1997.
DO	Sosnowski R. et al., Proc. Natl.Acad.Sci, 94, 1997, 1119-1123
DP	Southern et al., "Analyzing and Comparing Nucleic Acid Sequences by Hybridization to Arrays of Oligonucleotides Evaluation Using Experimental Models," <i>Genomics</i> , 13:1008-1017 (1992)
DQ	Strezoska et al., "DNA Sequencing by Hybridization: 100 Bases Read by a Non-Gel-Based Method", <i>Proc. Natl. Acad. Sci. USA</i> , 88:10089-93 (1991)
DR	Taylor P. et al, Principles Of Drug Action-The Basis Of Pharmacology, Edited by W.B. Pratt, P. Taylor, Third Edition, Churchill Livingstone, 1990, pp 1-74.
DS	Uhlmann et al., "Antisense Oligonucleotides: A New Therapeutic Principle", <i>Chemical Abstracts</i> , Vol. 90, No. 4, pp. 543-584, 1990.
DT	Wallace et al., "Hybridization of Synthetic Oligodexribonucleotides to x 174 DNA: The Effect of Single Base Pair Mismatch," <i>Nucleic Acid Res.</i> , 6:3543-3557 (1979)
DU	Westin, L. et al., "Antimicrobial Resistance and Bacterial Identification Utilizing a Microelectronic Chip Array", <i>J. Clinical Microbiol.</i> , Vol. 39, No. 3, pp. 1097-1104, 2001.
DV	Zhang, Y. et al, J.Am.Chem.Soc., 116, 1994, pp 1661-1669

Examiner: Not Yet Assigned

DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant